Special products

Types of Polynomials

You will need to remember the **special product formulas:**

$$(x+y)^2 = x^2 + 2xy + y^2$$

$$(x-y)^2 = x^2 - 2xy + y^2$$

$$(x+y)(x-y) = x^2 - y^2$$

Example 1: Multiplying Sums of Two Terms
Multiply the following polynomials.

a) $(x+3)^2$

b) $(x+4)^2$

c) $(x+5)^2$

d) $(2x+3)^2$

Example 1: Multiplying Differences of Two Terms
Multiply the following polynomials.

a) $(x-2)^2$

b) $(x-3)^2$

c) $(x-4)^2$

d) $(2x-3)^2$

Example 3: **Multiplying the Difference of Two Squares**
Multiply the following polynomials.

a) $(x-2)(x+2)$

b) $(x-3)(x+3)$

c) $(x-4)(x+4)$

d) $(2x-1)(2x+1)$

e) $(2x-3)(2x+3)$

f) $(2x-5)(2x+5)$